

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 24 APR 2006

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Applicant's or agent's file reference 1.G164.12PC.243	FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/IB2005/000027	International filing date (day/month/year) 05.01.2005	Priority date (day/month/year) 15.01.2004
International Patent Classification (IPC) or national classification and IPC INV. B41F9/06 B41F31/20 B41F9/10 B41F31/02		
Applicant KBA-GIORI S.A. et Al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 27.10.2005	Date of completion of this report 24.04.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Duquénoy, A Telephone No. +31 70 340-2065 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IB2005/000027

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
- ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b)) .
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-14 as originally filed

Claims, Numbers

1-20 filed with telefax on 03.04.2006

Drawings, Sheets

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☒ the claims, Nos. 2
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-20
	No: Claims	
Inventive step (IS)	Yes: Claims	2-20
	No: Claims	1
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item I.

1 ADDED SUBJECT-MATTER

1.1 In the facsimile of 03.04.06, claim 2 contains added subject-matter (Art. 34(2)b PCT).

1.2 As explained during a telephone conversation (see Minutes of 14.03.06), the feature "engraved selective inking cylinder having engravings" means only "cylinder being directly engraved" according to page 4 of the description wherein it is stated "The surface of the selective inking cylinder can be directly engraved or, preferably, the cylinder carries an engraved plate with engravings".

In the amended claim 2 filed with the facsimile of 03.04.06, it is tried to extend the scope of the protection by using the expression "**engraved** selective inking cylinder **carrying** an engraved plate with engravings". Indeed, the inking cylinder is either engraved or carrying an engraved plate but cannot be both.

1.3 For the purpose of the examination, the following interpretation of claim 2 is considered as not going beyond the disclosure in the international application as filed: An inking system for an intaglio printing machine, said inking system comprising at least a duct for inking the surface of an ~~engraved~~ selective inking cylinder carrying an engraved plate with engravings, which ~~engraved~~ selective inking cylinder in turn inks the surface of a plate cylinder of the intaglio printing machine via a chablon roller having reliefs, the engravings of said selective inking cylinder and the relief of said chablon roller corresponding to engravings to be inked on said plate cylinder, wherein said inking system further comprises a wiping system for wiping the surface of said selective inking cylinder and recuperating the wiped ink in the duct.

Re Item V.

1 Reference is made to the following documents:

D1: US-A-4 604 951 (ICHIKAWA ET AL) 12 August 1986 (1986-08-12)

D2: US-A-4 428 291 (DOROW ET AL) 31 January 1984 (1984-01-31)

D3: EP-A-0 182 325 (ALBERT-FRANKENTHAL AG) 28 May 1986 (1986-05-28)

D4: FR-A-1 259 111 (GUALTIERO GIORI) 21 April 1961 (1961-04-21)

D5: US-B1-6 427 591 (SCHMID GOTTHARD) 6 August 2002 (2002-08-06)

D6: US-A-5 372 644 (KOCHSMEIER ET AL) 13 December 1994 (1994-12-13)

D7: US-A-4 516 496 (GIORI ET AL) 14 May 1985 (1985-05-14)

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not inventive in the sense of Article 33(3) PCT.
- 2.2 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document): an inking system for an intaglio printing machine (abstract), said inking system comprising at least a duct (40) for inking the surface of an engraved selective inking cylinder (39) having engravings directly engraved in the surface thereof, which engraved selective inking cylinder in turn inks the surface (37) of a plate cylinder (36) of the intaglio printing machine via a chablon roller (38) having reliefs (38a), the engravings of said selective inking cylinder and the reliefs of said chablon roller corresponding to engravings (col. 4; lines 23-25) to be inked on said plate cylinder (36).
- 2.3 The subject-matter of claim 1 therefore differs from this known D1 in that: said inking system further comprises a wiping system for wiping the surface of said selective inking cylinder and recuperating the wiped ink in the duct.
- 2.4 The problem to be solved by the present invention may therefore be regarded as minimise the amount of ink left on the screened cylinder.
- 2.5 The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:
Document D2 discloses (the references in parentheses applying to this document) an inking system suitable for a printing machine, said inking system comprising at least a duct (13,14) and a duct roller (2) for inking the surface of an engraved selective inking cylinder (5) which in turn inks the surface of a plate cylinder (3) of the intaglio printing machine via a form roller (4) wherein said inking system further comprises a wiping system (8,9) for wiping the surface of said screened cylinder (5) and recuperating the wiped ink in the duct (figure 1; col. 5, lines 21-32).
Moreover, in D2, col. 5, l.24-27, it is clearly stated that the doctor unit (9) is rested against a screened drum so that ink on the drum which is not within the pockets, and

NOT NEEDED for filling them, is stripped off.

Feature "wiping system" is described in document D2 as providing the same advantages as in the present application. The skilled person would therefore regard it as a normal option to include this feature in the inking system described in document D1 in order to solve the problem posed.

3 INDEPENDENT CLAIM 2

- 3.1 The present application does meet the criteria of Article 33(1) PCT, because the subject-matter of claim 2 is inventive in the sense of Article 33(3) PCT.
- 3.2 The document D1 is regarded as being the closest prior art to the subject-matter of claim 2, and discloses (the references in parentheses applying to this document): an inking system for an intaglio printing machine (abstract), said inking system comprising at least a duct (40) for inking the surface of a selective inking cylinder (39), which selective inking cylinder in turn inks the surface (37) of a plate cylinder (36) of the intaglio printing machine via a chablon roller (38) having reliefs (38a), the engravings of said selective inking cylinder and the reliefs of said chablon roller corresponding to engravings (col. 4; lines 23-25) to be inked on said plate cylinder (36).
- 3.3 The subject-matter of claim 2 therefore differs from this known D1 in that: said selective inking cylinder carries an engraved plate with engravings, said inking system further comprises a wiping system for wiping the surface of said selective inking cylinder and recuperating the wiped ink in the duct.
- 3.4 The problem to be solved by the present invention may therefore be regarded as minimise the amount of ink left on the screened cylinder.
- 3.5 The solution proposed in claim 2 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons: Document D2 discloses (the references in parentheses applying to this document) an inking system suitable for a printing machine, said inking system comprising at least a duct (13,14) and a duct roller (2) for inking the surface of an engraved selective inking

cylinder (5) which in turn inks the surface of a plate cylinder (3) of the intaglio printing machine via a form roller (4) wherein said inking system further comprises a wiping system (8,9) for wiping the surface of said screened cylinder (5) and recuperating the wiped ink in the duct (figure 1; col. 5, lines 21-32).

In D2, col. 5, l.24-27, it is clearly stated that the doctor unit (9) is rested against a screened drum so that ink on the drum which is not within the pockets, and NOT NEEDED for filling them, is stripped off. However, even if feature "wiping system" is described in document D2 as providing the same advantages (to minimise ink consumption) as in the present application, the blade wiping system described in D2 is not suitable for a cylinder carrying a plate because the blade would abut against the clamping means.

There are no hints that the skilled person would use an other wiping system than in D2 and to combine it with the inking cylinder of D1 in order to minimise the ink consumption while avoiding the clamping means interference.

Note: the feature "clamping means" was considered as implicitly present with the feature "cylinder carrying an engraved plate".

3 DEPENDENT CLAIMS 3-20

- 3.1 The combination of claim 1,7,8 might be inventive because there are no hints in the state of the art to replace the blade wiping system of D2 by a wiping system comprising a wiping roller and a scraping blade.
- 3.2 -It is obvious a duct roller can be coated with hard plastic or rubber [claim 4].
-An ink chamber or a duct roller is a well known feature for providing ink to the inking cylinder [claims 3,5] (see D5).
-D7 discloses a collector (3) suitable to be use in the printing machine of D1-D2 [claim 14].
-D4 discloses a transfer cylinder suitable for the inking system of D1 [claim 15].
-Document D1 is adapted to leave a slight amount of ink non-engraved areas of the inking cylinder (5) [claim 16].

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-Features of claims 17-20 are implicit or obvious from the prior art.

- 3.3 Claims 3-20 are also dependent on claim 2 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

1.6164.12PC.243 claim am DA

Claims

1. An inking system for an intaglio printing machine, said inking system comprising at least a duct (1; 10) for inking the surface of an engraved selective inking cylinder (5; 13; 34, 35, 36, 37) having engravings directly engraved in the surface thereof, which engraved selective inking cylinder in turn inks the surface of a plate cylinder (16; 23; 28; 39) of the intaglio printing machine via a chablon roller (17; 21; 24; 40, 41, 42, 43) having reliefs (18; 22; 25), the engravings of said selective inking cylinder (5; 13; 34, 35, 36, 37) and the reliefs (18; 22; 25) of said chablon roller (17; 21; 24; 40, 41, 42, 43) corresponding to engravings (27; 38) to be inked on said plate cylinder (16; 23; 28; 39), wherein said inking system further comprises a wiping system (8, 9) for wiping the surface of said selective inking cylinder and recuperating the wiped ink in the duct (1; 10).
2. An inking system for an intaglio printing machine, said inking system comprising at least a duct (1; 10) for inking the surface of an engraved selective inking cylinder (5; 13; 34, 35, 36, 37) carrying an engraved plate with engravings, which engraved selective inking cylinder in turn inks the surface of a plate cylinder (16; 23; 28; 39) of the intaglio printing machine via a chablon roller (17; 21; 24; 40, 41, 42, 43) having reliefs (18; 22; 25), the engravings of said selective inking cylinder (5; 13; 34, 35, 36, 37) and the reliefs (18; 22; 25) of said chablon roller (17; 21; 24; 40, 41, 42, 43) corresponding to engravings (27; 38) to be inked on said plate cylinder (16; 23; 28; 39), wherein said inking system further comprises a wiping system (8, 9) for wiping the surface of said selective inking cylinder and recuperating the wiped ink in the duct (1; 10).

1. 6164.12PC.243 claim am DA

- 3 The inking system according to claim 1 or 2, wherein said duct (1) includes a duct roller (2) for applying ink to the surface of said selective inking cylinder (5; 34, 35, 36, 37).
- 4 The inking system according to claim 3, wherein the duct roller (2) is coated with hard plastic or rubber.
- 5 The inking system according to claim 1 or 2, wherein said duct (10) is formed by an ink chamber (11) with an ink spray device (12) for applying ink to the surface of said selective inking cylinder (13).
- 6 The inking system according to claim 5, wherein said spray device (12) is synchronized with the rotation of the selective inking cylinder (13) in order to avoid ink application in non-engraved areas of the selective inking cylinder (13).
- 7 The inking system according to claim 1 or 2, wherein said wiping system includes a wiping roller (8).
- 8 The inking system according to claim 7, wherein said wiping system further comprises a scraping blade (9) for scraping the surface of said wiping roller (8).
- 9 The inking system according to claim 7, wherein said wiping roller (8) is a dry wiping roller.
- 10 The inking system according to claim 7, wherein the wiping roller (8) rotates in the same direction as the selective inking cylinder (5; 13; 34, 35, 36, 37).
- 11 The inking system according to claim 7, wherein the wiping roller (8) is coated with hard plastic or rubber.

1.6164.12PC.243 claim am DA

12. The inking system according to claim 7, wherein the wiping roller (8) is coated with ink repellent material.

13. The inking system according to claim 7, wherein the wiping roller (8) is driven by independent driving means.

14. The inking system according to claim 1 or 2, wherein said chablon roller (17; 24; 40, 41, 42, 43) indirectly inks the surface of said plate cylinder (16; 28; 39) via a collector cylinder (19; 26; 44).

15. The inking system according to claim 1 or 2, wherein said selective inking cylinder (5) inks said chablon roller (21) via a transfer cylinder (20).

16. The inking system according to claim 1 or 2, wherein said wiping system (8, 9) is adapted to leave a slight amount of ink on non-engraved areas of the selective inking cylinder (5), which amount of ink is sufficient to ink fine engravings on said plate cylinder (16; 23; 28; 39).

17. An intaglio printing machine for printing sheets or webs of securities, such as banknotes, checks, passports, ID and other similar objects, comprising at least a feed unit, an impression cylinder (31; 42) and a plate cylinder (28; 39) carrying at least one plate, a printing nip (30; 41) being formed between the plate cylinder (28; 39) and the impression cylinder (31; 42), wherein said printing machine comprises an inking system according to any one of the preceding claims.

18. The intaglio printing machine according to claim 17, comprising a plurality of inking systems (30, 31, 32, 33) with respective ducts (2), wiping systems (8, 9), selective inking

1. 164.12PC.243 claim am DA

cylinders (34, 35, 36, 37) and chablon rollers (40, 41, 42, 43) which ink a common collector cylinder (44).

19. The intaglio printing machine according to claim 18, wherein each selective inking cylinder (34, 35, 36, 37) only has an engraved pattern which corresponds to the color the selective inking cylinder is meant to transfer.

20. The intaglio printing machine according to claim 18, wherein all selective inking cylinders (34, 35, 36, 37) have the same engraved pattern and wherein each chablon roller (40, 41, 42, 43) only transfers the necessary ink to the collector cylinder (44).